

WHAT IS CLAIMED IS:

- 1 1. A method for preparing for intraductal retrieval of fluid, cells
2 and/or other material from a breast duct of a patient, comprising:
3 administering an agent to the patient that increases retrievable fluid from a
4 breast duct.
- 1 2. A method as in claim 1, wherein administering is accomplished by
2 a mode selected from the group consisting of administering the agent intraductally,
3 administering the agent systemically, and administering the agent topically.
- 1 3. A method as in claim 2, wherein the agent is administered
2 intraductally to a breast duct, and the agent is selected from the group consisting of saline,
3 phosphate buffered saline (PBS), an isotonic solution, a hypotonic solution, a buffered
4 solution, a solution having a pH range of human tissue, blood or sera, a solution having a
5 slightly acid pH, a solution having a slightly basic pH, and a nonabsorbable
6 biocompatible solution.
- 1 4. A method as in claim 2, wherein the agent is administered
2 systemically and comprises an agent selected from the group consisting of a hormone,
3 oxytocin, prolactin, a breast duct secretion inducing factor, a natural herb or extract from
4 a natural herb, silymarin, a growth factor, a vitamin, a protein, a muscle relaxant, and a
5 small organic molecule.
- 1 5. A method as in claim 2, wherein the agent is administered
2 intraductally to a breast duct, and the agent is selected from the group consisting of a
3 protein, a colloid, a sugar, a polymer, mannitol, sorbitol, glucose, glycerol, sucrose,
4 raffinose, fructose, lactulose, sodium chloride, polyethyleneglycol (PEG), maltodextrin,
5 dextran (e.g. dextran 70), hydroxyethyl starch, fluid gelatin, a synthetic colloid, an
6 antibody, a binding protein, albumin, a hormone, a breast duct secretion inducing factor, a
7 natural herb or extract from a natural herb, silymarin, a surfactant, a growth factor,
8 oxytocin, prolactin, a small organic molecule, a muscle relaxant, a ductal orifice dilator,
9 and an agent that increases fluid secretion from a breast duct epithelium.

1 6. A method as in claim 2, wherein the agent is intraductally
2 administered and the agent is in a state selected from the group consisting of a non-liquid,
3 a gel, an emulsion, a gas and a semi-solid.

1 7. A method as in claim 2, wherein the agent is intraductally
2 administered agent and the agent comprises a carbonated fluid comprising super
3 oxygenated fluid that is colder than room temperature before intraductal administration.

1 8. A method as in claim 1, further comprising collecting a portion of
2 the increased breast duct fluid from a breast duct.

1 9. A method as in claim 8, wherein collecting comprises accessing a
2 breast duct with a device and withdrawing a portion of the increased ductal fluid into the
3 device.

1 10. A method as in claim 8, further comprising analyzing one or more
2 of cells, fluid or other material in the breast duct after the retrievable fluid has been
3 increased and a portion of it has been collected.

1 11. A method as in claim 10, wherein the step of analyzing comprises
2 identifying a marker of a breast condition.

1 12. A method of collecting ductal fluid from a breast duct having
2 artificially increased retrievable ductal fluid comprising accessing a breast duct with a
3 device and withdrawing a portion of the ductal fluid into the device.

1 13. A method as in claim 12, wherein withdrawn ductal fluid
2 comprises a plurality of ductal epithelial cells.

1 14. A method for increasing a retrievable cell amount in a breast duct
2 comprising inducing cell sloughing within the duct by applying vibration to the duct.

1 15. A method as in claim 1 or claim 12 further comprising increasing a
2 retrievable cell amount in a breast duct comprising inducing cell sloughing within the
3 duct by applying vibration to the duct.